

IN THE CLAIMS:

- 1 1. (Currently amended) A data receiving unit for receiving data transmissions in which
2 data is transmitted in parallel over a plurality of conductors and a forwarded clock signal,
3 synchronized with the data, is received over a further conductor, said unit comprising:
- 4 a. an input latch connected to ~~receiving~~receive the data on said data conductors, said
5 latch being clocked by ~~alternate transitions of~~ said forwarded clock ~~clock~~ signal,
- 6 b. means for maintaining a delayed replica of said forwarded clock signal in syn-
7 chronism with said forwarded clock signal, said delayed replica being a local clock signal
8 for internal operations of said receiving unit,
- 9 c. a second latch connected to receive the contents of said input latch, said second
10 latch being clocked by said local clock signal on transitions alternate to those on which
11 said input latch is clocked.
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11 c. ~~the third and forth~~ fourth latches connected to receive the contents of said first and
12 second input latches, respectively, said third and ~~forth~~ fourth latches being clocked ~~the same~~
13 by transitions of said local clock signal.

1 3. (Previously presented) The receiving unit defined in claim 2 in which said first and
2 third latches are clocked by corresponding clock edges and further including a delay ele-
3 ment disposed in the data path from said first latch to said third latch, thereby to prevent
4 jitter in the relative phase of the clock signals applied to said first and third latches from
5 causing errors in the transfer of data from said first latch to said third latch.

1 4. (Currently amended) The data receiving unit defined in claim ~~3~~ 2 in which ~~said the~~
2 synchronism maintaining means synchronizes said delayed replica with the forwarded
3 clock signal as received at said first latch.

1 5. (Currently amended) The receiving unit defined in claim ~~4~~ 2 in which said local clock
2 signal is delayed relative to the forwarded clock signal by an interval that is substantially
3 equal to the time required for the local clock signal to reach components in said receiving
4 unit clocked by that signal.

1 6. (New) The receiving unit of claim 1 wherein said local clock signal is delayed relative
2 to the forwarded clock signal by an interval corresponding to the time required for the
3 local clock signal to reach components clocked by the local clock signal in said receiving
4 unit.

1 7. (New) A method for receiving data transmissions at a data receiving unit, the method
2 comprising:

3 receiving data at a first latch disposed in the data receiving unit;
4 receiving a forwarded clock signal, synchronized with the received data, at the first
5 latch, the first latch being clocked on transitions of the forwarded clock signal;
6 maintaining synchronization between the forwarded clock signal and a delayed rep-
7 lica of the forwarded clock signal, the delayed replica being a local clock signal for internal
8 operations of the data receiving unit; and
9 forwarding the received data from the first latch to a second latch, the second latch
10 being clocked by the local clock signal on transitions that are alternate to those on which the
11 first latch is clocked.

1 8. (New) The method of claim 7 wherein the local clock signal is delayed relative to the
2 forwarded clock signal by an interval that is substantially equal to the time required for
3 the local clock signal to reach components clocked by the local clock signal in the data
4 receiving unit.

1 9. (New) A method for receiving double-data-rate data transmissions at a data receiving
2 unit, the method comprising:

3 receiving data at first and second latches in the data receiving unit;
4 receiving a forwarded clock signal, synchronized with the received data, at the first
5 and second latches, the first and second latches being clocked on transitions of the for-
6 ward clock signal;
7 maintaining synchronization between the forwarded clock signal and a delayed rep-
8 lica of the forwarded clock signal, the delayed replica being a local clock signal for internal
9 operations of the data receiving unit; and

10 forwarding the received data from the first and second latches to third and fourth
11 latches, respectively, the third and fourth latches being clocked by the local clock signal
12 on alternate transitions relative to the first and second latches.

1 10. (New) The method of claim 9 wherein the local clock signal is delayed relative to the
2 forwarded clock signal by an interval corresponding to the time required for the local
3 clock signal to reach components clocked by the local clock signal in the data receiving
4 unit.

1 11. (New) The method of claim 9 wherein said first and third latches are clocked by cor-
2 responding clock edges, the method further comprising providing a delay element in the
3 data path from the first latch to the third latch, the delay element configured to prevent
4 jitter in the relative phase of the clock signals applied to the first and third latches.

1 12. (New) The method of claim 9 further comprising synchronizing the delayed replica of
2 the forwarded clock signal with the forwarded clock signal received at the first latch.